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## Continuing Education for Today's Ag Professionals - The Crop Adviser Institute

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## CONTINUING EDUCATION FOR TODAY'S AG PROFESSIONALS – THE CROP ADVISER INSTITUTE

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### Introduction

The Crop Adviser Institute (CAI) was developed by Iowa State University in an effort to enhance the quality and availability of continuing education unit (CEU) opportunities for professionals in agriculture, especially certified individuals such as Certified Crop Advisers (CCAs). The CAI program delivers course modules via distance education methods, utilizing computer courseware to allow learners to complete CEU courses where and when they choose. CAI courses are available in five educational focus categories recognized by the American Society of Agronomy CCA (ASA-ICCA) program which are:

- Nutrient Management
- Crop Management
- Soil and Water Management
- Pest Management
- Professional Development

Crop Adviser Institute courses are reviewed and accredited by ASA-ICCA for CEU credit by CCAs in all states and provinces, as well as being accredited by the Iowa CCA board as *local-board approved* CEU credits for CCAs in Iowa.

Crop Adviser Institute courses have won many awards including multiple Educational Excellence awards from the American Society of Agronomy. In 2003 two CAI courses; Soybean Rust – Biology and risks, and Riparian Management Systems, received first and second place, respectively, in this ASA competition for educational software. In 2002 three awards were received for the courses: Growing Degree Days, Water Storage in Soil, and Soil Test Results.

### Course modules

Courses are developed in conjunction with faculty and staff from ISU as well as external collaborators. Courses are delivered via CD-ROM and are also available streamed via the Internet. CD-ROM delivery is preferred by most CAI learners as 57% report connecting to the Internet on low-speed, dial-up modems (Fig. 1). Streaming delivery is anticipated to increase as broadband Internet connections become increasingly available.

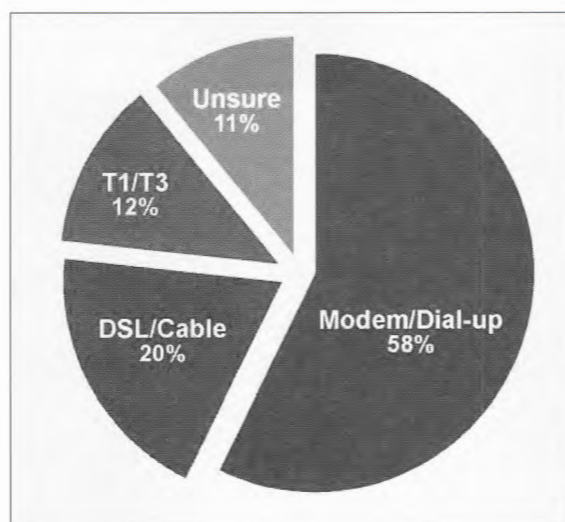


Fig. 1. CAI learner Internet access.

Courses include reference materials such as terms/glossary functions, supplementary reading lists, image galleries, and “live-links” to dynamically updated course web pages on the CAI website at [www.cai.iastate.edu](http://www.cai.iastate.edu). This linkage eliminates course material or web-links from becoming outdated when new or updated information which was developed after the course was released becomes available.

### Pedagogy

Sound pedagogical principles are paramount to developing educational materials that enhance the learning experience. CAI courses are internally sequenced to minimize learner navigational problems and maximize learning utility. High levels of visual stimulation are achieved through high graphic/text ratios, and utilization of photos, drawings, animations, and movies intended to improve cognition. Interactive segments are engaging and invite the learner to synthesize, analyze, and apply what they have learned through the computer-learner interface. Evaluation results have shown that 87% of our learners felt that the course content was presented clearly and concisely (Fig. 2). Additionally, 91% stated that the graphics and interactive elements in the course modules were beneficial to their learning experience.

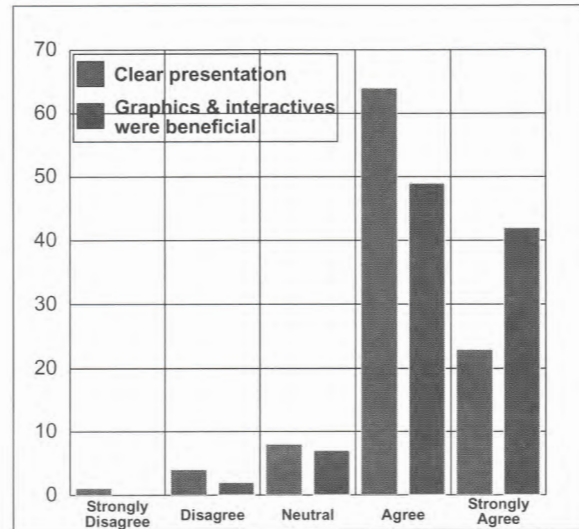


Fig. 2. Learner perceptions of presentation and graphics/interactivity.

### Distance education

Distance education is not a new concept, correspondence courses have been in use for many centuries. Ag professionals such as CCAs have had text-based distance continuing education available in printed format for a number of years, and recently text-based courses have also been available electronically. The CAI is the first widely accessible program to provide *interactive* continuing education in an electronic format. When queried, learners who have completed CAI courses stated that although 78% had completed a distance education course before, only 55% had done so using an electronic format (Fig. 3). These same learners responded that based on their experience with the interactive CAI course they just completed, over 98% of them would complete another electronic CAI course.



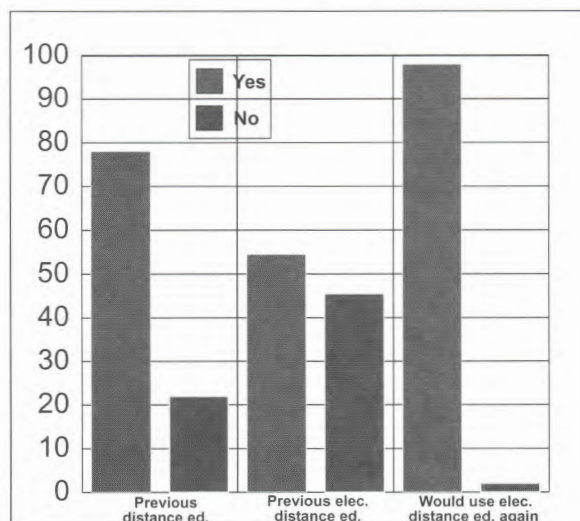
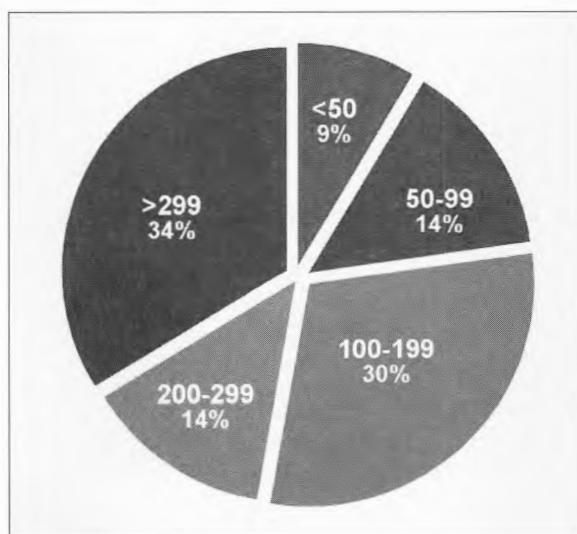


Fig. 3. Distance education experience.

The ability to easily extend course offerings across temporal and geographic boundaries is a critical component of distance education. CAI courses have been completed by learners in 42 states, 5 Canadian provinces, and on 4 continents. Over 34% of survey respondents reported that they were over 300 miles from the course development site (Ames, Iowa) when they completed their course (Fig. 4).

Fig. 4. Geographical separation from course development site (*in miles*).

### Comprehension and application

Content may be provided in many formats, yet learning is somewhat independent of format as long as the presentation of the material is compatible with the delivery. However, the distance

methods utilized by the CAI allow the learner to back-up, repeat sections, and start-and-stop as needed. Each of these traits are difficult to provide with face-to-face (F2F) delivery. Learners reported that 91% of them learned *as much or more* using a CAI course as they would have at a traditional F2F course that provided an equal number of continuing education credits (CEUs). They attributed much of this to their ability to repeat material, review topics before being evaluated, and work at their own pace on their own schedule. Providing content in *any* format does not ensure that the content is relevant for the learner, yet CAI courses have been reported by 87% of learners to have contained material directly related to their professional responsibilities.

### Summary

The CAI is programmatically young yet has already affected the way continuing education is delivered to ag professionals, as well as the way distance education is viewed by certifying organizations. CAI goals include increasing the quality, educational merit, and availability of continuing education. The interactive distance education paradigm put forth by the CAI is becoming increasingly accepted as its own entity, set apart from face-to-face continuing education courses as well as print or text-based distance delivered courses.

### Quotes from CAI learners

- I like the convenience of completing the study & taking the test on my schedule instead of planning a date to travel to a class or meeting. Also the chance to view & review materials at my leisure rather than a presenter's pace."
- I like the graphics and interactive functions. They are informative and work well.
- I can learn at my own pace, and complete lessons when it is convenient for me.
- Easy to do in disconnected time periods. Will be easy to use with my own students.

### References - Links

The mission of the Crop Adviser Institute is to provide high quality, interactive, computer-based, learning modules designed for the continuing education of agricultural professionals. This mission is being fulfilled through an Iowa State University partnership between the Iowa State University College of Agriculture and Iowa State University Extension.

Agribusiness Education Program: <http://extension.agron.iastate.edu/aged>

American Society of Agronomy – ICCA: [www.agronomy.org/cca](http://www.agronomy.org/cca)

Crop Adviser Institute: [www.cai.iastate.edu](http://www.cai.iastate.edu)